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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. |
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| 09/465,016 | 12/16/99 | MONZA G | 05788-0111 |

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FINNEGAN HENDERSON FARABOW
GARRETT & NUNNER L L P
1300 I STREET N W
WASHINGTON DC 20005-3315

| EXAMINER | |
|---|---|
| HOFFMANN, J | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 1731 | 10 |

DATE MAILED: 10/23/01

**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner of Patents and Trademarks**

| Office Action Summary | Application No. 09/465,016 | Applicant(s) MONZA ET AL. |
|---|---|---|
| | Examiner John Hoffmann | Art Unit 1731 |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *18 September 2001* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) *15-19* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

## DETAILED ACTION

### *Election/Restrictions*

Applicant's election without traverse of Group I , claims 1-14 in Paper No. 9 is acknowledged.

Claims 15-19 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 9.

### *Claim Rejections - 35 USC § 112*

Claims 4-7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 4 refers to "the chamber at a predetermined temperature". There is no prior mention of any chamber at a predetermined temperature - or that the reaction chamber is at a predetermine temperature. It is unclear if this is further limiting the reaction chamber, or if the claim requires an additional chamber.

Claim 14 requires that the compositions be "heated...into a respective supply tank". One of ordinary skill would not understand if this requires that the heating is such that the composition goes "into" the supply tank, or if the liquids are heated as the flow "into" a supply tank or something else. Examiner cannot tell what this limitation requires, thus it is assumed one of ordinary skill would also be confused.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuisl 4650693.

Kuisl discloses the invention as claimed, except for the temperature at the outlet.

Looking to the sole figure: 2 represents the first gaseous or vapor pahse that tis provided to the inlet zone of chamber 60 (or alternatively, 41). See col. 1, line 53-55 which indicates that it is a surrounding structure - i.e. it is a chamber. Even though Kuisl indicates that 1 is a reaction chamber, any other chamber in which the reaction occurs can be considered a reaction chamber. 3 represents the supplying of water as the second gaseous phase to the inlet zone. The reacting occurs as per col. 2, lines 57-62 and line 42. The directing and depositing can be easily seen from the drawing. As to the temperature gradient: Col. 4, lines 46-48 indicate that the gases are only at 800-1000 C. And lines 52-59 clearly state that 41 is heated to 1200C, thus furnace 60 is at least 1200. Further, it discloses that the stream 20 is heat higher than 1200. But it is not stated that these temperatures are at all locations of 41, 60 and 20. It would have been obvious to heat at least the rightmost ends (if not the entirety) of 41 and 60 to be at the disclosed temperature, because one would want the whole structure to be

at the temperatures disclosed, to make sure the invention works. If a reference discloses heating something to a particular temperature, one usually expects that the entire feature ought to be heated to that temperature - not just one portion of the body.

It is noted that an "outlet" and a "zone" are not structure -unless there is structure is used to define their boundaries. A zone can be as be as arbitrarily small or large as desired. As to an outlet having a temperature, such could be the temperature of the gas flowing through the opening, or the structure which defines the boundaries of the opening. In the present case a zone (i.e. the left-most quarter of chamber 60, or the left most half of chamber 41 has at least one section that is in the 800-1000C range as discussed above. Thus there is a temperature difference from at least 1000 to 1200 C.

Claim 2 is clearly met.

Claim 3, the disclosed temperature ranges clearly represents a difference in temperature of 300 C. One of ordinary skill at once envisions such a difference.

Claim 4 : either chamber 41 and 60 are at predetermined temperatures.

Claim 5: The predetermined temperatures of the chamber (be it 41 or 60) are such that the reaction is not complete prior to the mixing of the gases. Although another reasonable interpretation of the claim is that it requires the reaction to be incomplete if the gases were fully mixed and if the gases were heated to that temperature. But such would not be the broadest reasonable interpretation of the claim.

Claim 6: Since the gases are heated to 800-1000, they have to be cooler than that to begin with. It would have been obvious to have the gases at room temperature because that is the cheapest way to store/supply the gases. It is deemed that any local

interior portion of the chamber is part of the chamber, thus since the gases are at room temperature, at least that local portion of the chamber is at room temperature - or maybe slightly elevated. Such a temperature would be *predetermined* by its original temperature, any heat added or withdrawn therefrom, any adiabatic cooling it has undergone, etc.

Claim 7: It would have been obvious that the gas would be heated "from about 600 C to about 750 C as it is heated from room temperature to a temperature within the 800-1000 C range.

Claim 8, refers to "the" stream that goes "through" the chamber and "the inlet". But there is no prior mention of the stream that goes through the chamber or the inlet. It is deemed that the broadest reasonable interpretation of the claim is: "if there is a stream being direct through the reaction chamber, then it increases from 700 C at ***an*** inlet to about 1200....." Since Kuisl does not have an aerosol stream that goes through the chamber, it need not have the temperature change. The Office cannot interpret the claim as having this extra stream - unless the claim specifically requires it.

Claim 9: First it is noted that there is no explicit antecedent basis for "the target preform". This is interpreted as "preform". Col. 2, lines 47-52 if Kuisl discloses heating the preform to draw it. It would have been obvious to maintain the end of the preform at a temperature above 700C so that one can draw a fiber - because a temperature higher than 700 is inherently required to soften the Kuisl glass to be able to draw it. IT would have been an obvious matter of routine experimentation to determine the optimal

temperature and then keep it at that temperature so that other parameters don't have to vary with varying temperature.

Claims 10-11, Col. 4, lines 23-43 discuss thermophoresis. It would have been obvious to have the target and the preform thereon at a temperature that supports the motion of the gases/soot. Whereas the particles avoid the higher temperature gas, one would have the preform/target at a lower temperature which would attract the particles. Such is a well known technique. It would have been obvious to one of ordinary skill to perform routine experimentation to determine the optimal temperature.

Claim 12, see col. 1, lines 45-47. If the cross section is rectangular, the walls converge at a 90 degree angle towards each other.

Claim 13: the reaction occurs in the substantial absence of the unreactive carrier gas 20.

Claim 14, it would have been obvious to store the starting materials in liquid form at room temperature, because the Kuisl materials a readily in the liquid phase at room temperature and because it is much easier to store liquids than gases. It would have been further obvious to heat them when the vapor form is desired, because heating will cause more evaporation (i.e. conversion from liquid to gas). It would have been further obvious to have them at a pressure near 1 atmosphere, because this is the cheapest pressure to store liquids at.

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Pauli is cited as substantially teaching a thermal gradient. Eisbrenner is cited as being cumulative to Kuisl. Geyer, Nishimine and Fujitsu are cited as being of general interest.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Hoffmann whose telephone number is 703-308-0469. The examiner can normally be reached on Monday, Tuesday, Wednesday, Thursday, Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stan Silverman can be reached on 703-308-3837. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-7115 for regular communications and 703-305-3599 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0651.

John Hoffmann
Primary Examiner
Art Unit 1731

jmh
October 19, 2001

10-19-01